

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**List of Plants for TANNIN**

Plant	Part	Low PPM	High PPM	StdDev	Reference
Acacia catechu	Plant	--	--		--
Acacia leucophloea	Plant	--	--		--
Acacia melanoxylon	Plant	--	--		--
Acacia nilotica	Bark	27100	27100	-0.9971131037044363	--
Acacia nilotica	Fruit	349500	349500	2.460165206941449	--
Acacia nilotica	Resin, Exudate, Sap	170000	200000	-0.6588112916807376	--
Acacia nilotica	Seed	66100	66100	-0.17202297185321858	--
Acacia nilotica	Wood	63500	63500	0.39532807016866817	--
Acacia senegal	Plant	--	--		Pakistan Encyclopedia Planta Medica. 1986.
Acacia tortilis	Bark	--	--		--
Acacia tortilis	Leaf	--	--		--
Acalypha indica	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Achillea millefolium	Plant	28000	40000	-0.6370616203493836	--
Acorus calamus	Plant	--	--		--
Acorus calamus	Rhizome	--	15000		--
Actaea cimicifuga	Rhizome	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Actaea racemosa</i>	Root	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Actinidia chinensis</i>	Fruit	9500	9500	-0.8200278577257989	--
<i>Adiantum capillus-veneris</i>	Plant	--	--		--
<i>Aegle marmelos</i>	Fruit	90000	90000	-0.04339391153252399	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Aegle marmelos</i>	Petiole	200000	200000		Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Aesculus hippocastanum</i>	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Aesculus hippocastanum</i>	Wood	--	--		Jim Duke's personal files.
<i>Agrimonia eupatoria</i>	Leaf	50000	80000	-0.37271411437234203	--
<i>Agrimonia eupatoria</i>	Shoot	30000	80000	1.6607008042164362	--
<i>Agrimonia eupatoria</i>	Bark	--	52800	-0.7722965656367389	Wealth of India.
<i>Ailanthus altissima</i>	Leaf	120000	120000	0.11560400756237017	--
<i>Ajuga reptans</i>	Plant	150000	150000	0.9688817051288484	--
<i>Albizia julibrissin</i>	Bark	--	--		--
<i>Albizia lebbeck</i>	Bark	70000	110000	-0.271926683244821	Wealth of India.
<i>Aleurites moluccana</i>	Bark	40000	60000	-0.709312944076917	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
<i>Alisma plantago-aquatica</i>	Plant	--	--		--
<i>Alnus glutinosa</i>	Bark	200000	200000	0.5153685862529519	--
<i>Aloysia citrodora</i>	Plant	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Alpinia officinarum</i>	Rhizome	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Althaea officinalis</i>	Root	20000	20000	-1.7590478728926933	--
<i>Ammi majus</i>	Seed	4500	4500	-0.9367271518852576	--
<i>Anacardium occidentale</i>	Bark	90000	90000	-0.44688118757765943	--
<i>Anaphalis margaritacea</i>	Plant	--	--		--
<i>Anemone pulsatilla</i>	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Annona muricata</i>	Plant	--	--		--
<i>Annona reticulata</i>	Bark	--	--		--
<i>Annona squamosa</i>	Plant	--	--		--
<i>Anogeissus latifolia</i>	Bark	100000	150000	0.07798232542085588	--
<i>Anogeissus latifolia</i>	Leaf	322000	329000	2.6670661946712415	--
<i>Apocynum cannabinum</i>	Plant	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Araucaria bidwillii	Leaf	7000	7000	-1.263894686903192	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Araucaria bidwillii	Wood	3000	3000	-1.0047118271115913	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Arbutus unedo	Bark	450000	450000	2.7022998904134328	--
Arbutus unedo	Leaf	160000	160000	0.6039221294970823	--
Arctostaphylos uva-ursi	Plant	60000	200000	1.69885594398259	--
Arctostaphylos uva-ursi	Leaf	6960	70000	-0.49479364485602007	--
Areca catechu	Seed	150000	250000	2.1109169422359373	--
Argemone mexicana	Plant	11000	11000	-1.060446678884554	--
Armoracia rusticana	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Artemisia abrotanum	Plant	--	--		--
Artemisia absinthium	Leaf	40000	77000	-0.40933797351744544	--
Artemisia cina	Flower	--	--		--
Artemisia dracunculus	Plant	--	--		--
Artocarpus heterophyllus	Bark	33000	33000	-0.945501524926249	--
Asclepias syriaca	Sprout Seedling	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Aspalathus linearis</i>	Shoot	--	44000	-0.8290380397657579	--
<i>Aspidosperma quebracho-blanco</i>	Bark	30000	40000	-0.8842674484097555	--
<i>Atropa bella-donna</i>	Root	120000	120000	1.3566088761423356	--
<i>Azadirachta indica</i>	Stem Bark	60000	60000	-0.4287334899984996	--
<i>Ballota nigra</i>	Plant	--	--		--
<i>Berberis vulgaris</i>	Plant	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Berberis vulgaris</i>	Fruit	55600	55600	-0.37527226866356317	Jim Duke's personal files.
<i>Borago officinalis</i>	Plant	30000	30000	-0.783056468120132	--
<i>Bryonia alba</i>	Root	--	--		--
<i>Buxus sempervirens</i>	Leaf	--	--		--
<i>Byrsonima crassifolia</i>	Bark	172500	282600	1.2379306891475748	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Caesalpinia pulcherrima</i>	Leaf	7000	7000	-1.263894686903192	--
<i>Caesalpinia pulcherrima</i>	Wood	3000	3000	-1.0047118271115913	--
<i>Calendula officinalis</i>	Leaf	64500	64500	-0.561937386622043	--
<i>Camellia sinensis</i>	Leaf	33800	270000	1.946796964817541	--
<i>Capparis spinosa</i>	Plant	--	--		--
<i>Capsella bursa-pastoris</i>	Plant	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Carum carvi</i>	Plant	--	--		--
<i>Castanea sativa</i>	Bark	40000	120000	-0.18444943107840175	--
<i>Castanea sativa</i>	Leaf	90000	90000	-0.250634583888664	--
<i>Castanea sativa</i>	Seed	20000	28000	-0.6449974728145933	--
<i>Catalpa bignonioides</i>	Bark	60000	60000	-0.709312944076917	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Catha edulis</i>	Leaf	--	--		--
<i>Catharanthus roseus</i>	Leaf	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Cedrus deodora</i>	Leaf	32000	32000	-0.9586958606939968	--
<i>Ceiba pentandra</i>	Bark	108200	108200	-0.28767258863477646	--
<i>Centaurea cyanus</i>	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Centella asiatica</i>	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Ceratonia siliqua</i>	Fruit	15000	15000	-0.7669659110914757	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Ceratonia siliqua</i>	Bark	12000	500000	3.1396861512455287	--
<i>Chamaemelum nobile</i>	Plant	--	--		--

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
<i>Chamaesyce hypericifolia</i>	Plant	--	--		--
<i>Chimaphila umbellata</i>	Plant	40000	40000	-0.6370616203493836	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Chrysanthemum balsamita</i>	Plant	--	--		--
<i>Cichorium intybus</i>	Plant	--	--		--
<i>Cimicifuga racemosa</i>	Root	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Cinchona officinalis</i>	Bark	--	--		--
<i>Cinnamomum aromaticum</i>	Plant	--	--		--
<i>Cinnamomum aromaticum</i>	Bark	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
<i>Cinnamomum verum</i>	Plant	--	--		--
<i>Citrus aurantium</i>	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Cnicus benedictus</i>	Plant	--	80000	-0.053082229266390064	--
<i>Cocos nucifera</i>	Plant	--	--		Jim Duke's personal files.
<i>Coffea arabica</i>	Seed	90000	90000	0.12467231877609526	--
<i>Cola acuminata</i>	Seed	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Collinsonia canadensis</i>	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
<i>Conyza canadensis</i>	Plant	--	--		--
<i>Coriandrum sativum</i>	Fruit	--	--		Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.
<i>Coriaria myrtifolia</i>	Leaf	100000	200000	1.0922402514317946	--
<i>Cornus florida</i>	Bark	30000	30000	-0.9717447005761747	--
<i>Croton eluteria</i>	Bark	--	--		--
<i>Croton lechleri</i>	Plant	--	--		Taylor, Leslie. 2005. <i>The Healing Power of Rainforest Herbs</i> . SquareOne Publisher, Garden City Park, NY. 519 pp.
<i>Cuminum cyminum</i>	Fruit	--	--		--
<i>Cuminum cyminum</i>	Seed	--	--		Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.
<i>Cuscuta europaea</i>	Root	60000	60000	-0.5127851732786817	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Cydonia oblonga</i>	Seed	--	--		--
<i>Cynara cardunculus</i>	Plant	--	--		--
<i>Cytisus scoparius</i>	Flower	--	--		--
<i>Datura stramonium</i>	Plant	70000	70000	-0.1990770770371384	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Dioscorea bulbifera</i>	Tuber	--	--		--
<i>Dipsacus fullonum</i>	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Dodonaea viscosa</i>	Bark	58000	58000	-0.7268083945102009	--
<i>Dodonaea viscosa</i>	Leaf	59800	59800	-0.6193147659493717	--
<i>Ephedra nevadensis</i>	Plant	--	--		--
<i>Eriobotrya japonica</i>	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Eriodictyon californicum</i>	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Eucalyptus citriodora</i>	Resin, Exudate, Sap	--	482000	1.4131379750921393	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Eucalyptus citriodora</i>	Leaf	--	11600	-1.2077381028807002	--
<i>Eucalyptus cornea</i>	Plant	--	250000	2.428830182836332	--
<i>Euonymus atropurpureus</i>	Root	--	--		--
<i>Eupatorium odoratum</i>	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Euphrasia officinalis</i>	Shoot	--	--		Jim Duke's personal files.
<i>Fallopia japonica</i>	Leaf	170000	240000	1.5805583733665067	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Fallopia japonica</i>	Stem	30000	130000	1.2185893134769075	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Ficus carica</i>	Stem Bark	--	5000	-0.9527410888855545	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
<i>Ficus carica</i>	Leaf	--	36000	-0.9098640485005256	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
<i>Filipendula ulmaria</i>	Leaf	--	--		--
<i>Filipendula ulmaria</i>	Shoot	--	93100	-0.0926152853107834	--
<i>Filipendula ulmaria</i>	Root	--	86200	0.3035168949684959	--
<i>Fragaria spp</i>	Leaf	--	--		--
<i>Frangula alnus</i>	Bark	--	--		--
<i>Frangula purshiana</i>	Plant	--	--		--
<i>Galium odoratum</i>	Plant	--	--		--
<i>Gardenia jasminoides</i>	Fruit	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Gaultheria procumbens</i>	Leaf	--	--		--
<i>Gelsemium sempervirens</i>	Root	--	--		--
<i>Genipa americana</i>	Fruit	--	--		--
<i>Genista tinctoria</i>	Plant	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Gentiana lutea	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Geranium thunbergii	Leaf	200000	200000	1.0922402514317946	--
Geranium thunbergii	Plant	50000	50000	-0.4910667725786353	--
Ginkgo biloba	Leaf	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Glechoma hederacea	Plant	30000	70000	-0.1990770770371384	--
Gleditsia triacanthos	Leaf	--	--		--
Gossypium sp	Stem	17700	17700	-1.3573651317646305	--
Guaiacum sp.	Wood	--	--		--
Guarea rusbyi	Bark	--	--		--
Haematoxylum campechianum	Wood	100000	100000	1.2399802396022128	--
Hamelia patens	Bark	150000	150000	0.07798232542085588	--
Hedeoma pulegioides	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hippophae rhamnoides	Fruit	18000	18000	-0.7380230311091176	Abstract (See species file)
Hippophae rhamnoides	Shoot	40000	50000	-0.7390474791398953	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Holarrhena pubescens	Bark	11400	11400	-1.1344523896057144	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Hydnocarpus kurzii</i>	Seed	--	--		--
<i>Hyssopus officinalis</i>	Plant	50000	80000	-0.053082229266390064	Lawrence Review of Natural Products, Jan-87.
<i>Ilex paraguariensis</i>	Leaf	40000	160000	0.6039221294970823	--
<i>Illicium verum</i>	Fruit	--	--		--
<i>Iris versicolor</i>	Rhizome	--	--		--
<i>Iris x germanica</i>	Rhizome	--	--		--
<i>Jateorhiza palmata</i>	Root	--	--		--
<i>Jatropha curcas</i>	Resin, Exudate, Sap	116000	187000	-0.7543266834114022	--
<i>Jatropha gossypifolia</i>	Leaf	--	--		--
<i>Juglans cinerea</i>	Bark	--	--		--
<i>Juglans nigra</i>	Fruit	147000	147000	0.5065208081322793	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Juglans nigra</i>	Pericarp	33600	280000	-1	--
<i>Juglans regia</i>	Bark	53000	75100	-0.577222293305624	--
<i>Juglans regia</i>	Fruit	122000	122000	0.26533014161262874	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Juglans regia</i>	Leaf	90000	110000	-0.006475522921307877	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Juniperus communis</i>	Fruit	50000	50000	-0.42929897796396493	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Juniperus virginiana</i>	Bark	21000	86000	-0.4818720884442271	--
<i>Krameria triandra</i>	Root	--	--		--
<i>Lagocheirus inebrians</i>	Plant	20000	40000	-0.6370616203493836	--
<i>Lantana camara</i>	Leaf	--	--		--
<i>Lavandula angustifolia</i>	Plant	--	120000	0.5308971618166033	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Lavandula angustifolia</i>	Flower	50000	120000	0.5345469560565174	--
<i>Leonurus cardiaca</i>	Plant	21000	90000	0.09291261850435828	--
<i>Lepidium meyenii</i>	Root	--	--		--
<i>Ligustrum vulgare</i>	Bark	70000	70000	-0.6218356919104978	--
<i>Ligustrum vulgare</i>	Leaf	60000	100000	-0.12855505340498594	--
<i>Lindera benzoin</i>	Plant	--	--		--
<i>Liquidambar orientalis</i>	Plant	--	--		--
<i>Liquidambar styraciflua</i>	Plant	--	--		--
<i>Lonicera japonica</i>	Plant	80000	80000	-0.053082229266390064	--
<i>Lycopus virginicus</i>	Plant	--	--		--
<i>Lythrum salicaria</i>	Flower	137000	137000	0.8221196855805931	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Lythrum salicaria</i>	Leaf	120000	120000	0.11560400756237017	--
<i>Lythrum salicaria</i>	Root	85000	85000	0.26612901398007555	--
<i>Lythrum salicaria</i>	Stem	105000	105000	0.6451355188995392	--
<i>Maclura pomifera</i>	Wood	90000	100000	1.2399802396022128	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Mahonia aquifolium</i>	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Malva neglecta</i>	Flower	--	--		--
<i>Mangifera indica</i>	Flower	150000	150000	1.0420282434519452	--
<i>Mangifera indica</i>	Seed	1100	1100	-0.9789348501337792	--
<i>Manilkara zapota</i>	Fruit	31600	64500	-0.2894083913825676	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Marrubium vulgare</i>	Plant	65000	70000	-0.1990770770371384	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Marrubium vulgare</i>	Flower	26000	29000	-1.0048129490429472	--
<i>Marsdenia reichenbachii</i>	Plant	--	--		--
<i>Matricaria recutita</i>	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Medicago sativa</i>	Hay	27000	28000		--
<i>Melia azedarach</i>	Bark	180000	260000	1.0402320992514673	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Melicoccus bijugatas</i>	Fruit	18800	60225	-0.33065199535742784	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Mentha aquatica</i>	Leaf	74000	74000	-0.44596183266254885	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Mentha arvensis var. piperascens</i>	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Mentha pulegium</i>	Plant	40000	40000	-0.6370616203493836	--
<i>Mentha x piperita</i>	Plant	--	--		--
<i>Menyanthes trifoliata</i>	Plant	30000	30000	-0.783056468120132	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Mercurialis annua</i>	Root	33500	33500	-1.3384342117729644	--
<i>Mimosa pudica</i>	Root	100000	100000	0.7334775263353299	--
<i>Mitchella repens</i>	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Morus alba</i>	Stem	--	--		--
<i>Myroxylon balsamum</i>	Plant	4000	4000	-1.1626430723240777	--
<i>Myrtus communis</i>	Plant	140000	140000	0.8228868573581	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Nepeta cataria</i>	Leaf	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Nigella sativa</i>	Seed	--	--		--
<i>Ocimum basilicum</i>	Tissue Culture	--	--		--
<i>Ocimum basilicum</i>	Plant	--	50000	-0.4910667725786353	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Ocimum sanctum</i>	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Ocimum tenuiflorum</i>	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Oenothera biennis</i>	Herb	110000	110000		--
<i>Ononis spinosa</i>	Plant	--	5000	-1.148043587547003	--
<i>Origanum creticum</i>	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Origanum majorana</i>	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Pachira aquatica</i>	Bark	27000	27000	-0.9979878762261004	--
<i>Paeonia lactiflora</i>	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Paeonia moutan</i>	Root Bark	--	--		--
<i>Paeonia officinalis</i>	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Paeonia suffruticosa	Root Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Panax quinquefolius	Plant	--	--		--
Paullinia cupana	Seed	50000	120000	0.49709318567481553	--
Pausinystalia johimbe	Bark	--	--		--
Persea americana	Leaf	47000	47000	-0.7755765649684798	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Peucedanum ostruthium	Root	--	--		--
Peumus boldus	Leaf	--	--		--
Phoenix dactylifera	Fruit	200	18000	-0.7380230311091176	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Phyllanthus emblica	Bark	80000	166400	0.22144501897378338	--
Phyllanthus emblica	Fruit	--	280000	1.7896551540168204	--
Phyllanthus emblica	Leaf	18000	22000	-1.080775391177675	--
Phyllanthus emblica	Twig	--	--		--
Phytolacca americana	Root	--	--		--
Pinus insularis	Bark	70000	100000	-0.3594039354112402	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pinus kesiya</i>	Bark	70000	100000	-0.3594039354112402	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Pinus sylvestris</i>	Bark	169000	169000	0.2441891045370524	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Piper angustifolium</i>	Leaf	--	--		--
<i>Piper betel</i>	Leaf	10000	20500	-1.0990873207502265	--
<i>Piscidia piscipula</i>	Plant	--	--		--
<i>Pistacia lentiscus</i>	Leaf	113000	113000	0.03014833622379554	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Pistacia vera</i>	Plant	--	--		--
<i>Plantago major</i>	Plant	40000	57000	-0.3888703791391115	--
<i>Plantago ovata</i>	Plant	--	--		--
<i>Plantago psyllium</i>	Plant	--	--		--
<i>Pogostemon cablin</i>	Plant	17000	17000	-0.9728497702221048	--
<i>Polygonum hydropiper</i>	Plant	35000	35000	-0.7100590442347579	--
<i>Populus nigra</i>	Plant	--	--		--
<i>Portulaca oleracea</i>	Plant	--	--		--
<i>Prosopis juliflora</i>	Bark	6000	84000	-0.49936753887751095	--
<i>Prosopis juliflora</i>	Root	67000	67000	-0.2946892008462297	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Prosopis juliflora</i>	Wood	9000	9000	-0.8658648951499126	--
<i>Prunella vulgaris</i>	Plant	45000	105800	0.3235844779821407	--
<i>Prunus armeniaca</i>	Fruit	600	1000	-0.9020326843424801	--
<i>Prunus cerasus</i>	Bark	50000	70000	-0.6218356919104978	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Prunus domestica</i>	Bark	68000	68000	-0.6393311423437816	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Prunus laurocerasus</i>	Leaf	--	--		--
<i>Prunus persica</i>	Fruit	8000	8000	-0.8344992977169778	--
<i>Prunus persica</i>	Leaf	8000	8000	-1.251686733854824	--
<i>Prunus serotina</i>	Bark	--	--		--
<i>Prunus spinosa</i>	Fruit	--	--		--
<i>Psidium guajava</i>	Bark	110000	300000	1.3901411079171442	--
<i>Psidium guajava</i>	Leaf	90000	100000	-0.12855505340498594	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Psidium guajava</i>	Root	--	--		--
<i>Pteridium aquilinum</i>	Plant	--	--		--
<i>Punica granatum</i>	Fruit Juice	1700	1700		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Punica granatum	Leaf	110000	110000	-0.006475522921307877	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Punica granatum	Pericarp	104000	336000	1	--
Punica granatum	Root Bark	20000	280000	0.8535499454737059	--
Punica granatum	Stem Bark	100000	250000	1.3814745788840543	--
Punica granatum	Root	--	70000	-0.2012194983751788	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Quercus alba	Bark	78500	200000	0.5153685862529519	--
Quercus infectoria	Plant	--	--		--
Quercus robur	Bark	80000	200000	0.5153685862529519	--
Quercus rubra	Bark	160000	160000	0.1654595775872751	--
Quercus suber	Cork	20000	65000		--
Quillaja saponaria	Bark	150000	150000	0.07798232542085588	--
Rhizophora mangle	Bark	10000	520000	3.314640655578367	--
Rhododendron ferrugineum	Leaf	--	--		--
Rhododendron ponticum	Leaf	50000	120000	0.11560400756237017	--
Rhus coriaria	Leaf	210000	280000	2.068876495301219	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rhus glabra	Leaf	270000	270000	1.946796964817541	--
Ribes uva-crispa	Fruit	--	--		--
Robinia pseudoacacia	Bark	70000	70000	-0.6218356919104978	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Rosa canina	Fruit	3740	20000	-0.7187277777875456	--
Rosa laevigata	Fruit	--	--		--
Rosmarinus officinalis	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Rubus fruticosus	Leaf	--	--		--
Rubus idaeus	Fruit	6200	6200	-0.8518650257063927	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Rubus idaeus	Leaf	16900	120000	0.11560400756237017	--
Rumex acetosella	Root	80000	140000	1.9797402259493415	--
Rumex crispus	Root	30000	60000	-0.5127851732786817	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Rumex hymenosepalus	Plant	180000	350000	3.8887786605438155	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Salix alba	Bark	20160	120000	-0.18444943107840175	--
Salvia officinalis	Plant	20000	80000	-0.053082229266390064	--
Salvia sclarea	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
<i>Sambucus canadensis</i>	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Sambucus nigra</i>	Leaf	4400	30000	-0.9831117667907324	--
<i>Sanguisorba minor</i>	Plant	--	--		--
<i>Sanguisorba officinalis</i>	Hs	--	170000		--
<i>Sanguisorba officinalis</i>	Plant	170000	170000	1.260871400670345	--
<i>Santalum album</i>	Wood	--	--		--
<i>Santolina chamaecyparissus</i>	Root	--	--		--
<i>Sarcostemma acidum</i>	Plant	--	--		--
<i>Sassafras albidum</i>	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Satureja hortensis</i>	Plant	40000	85000	0.01991519461898411	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Saussurea lappa</i>	Root	--	--		--
<i>Schinus molle</i>	Bark	230000	230000	0.7778003427522096	--
<i>Schinus terebinthifolius</i>	Bark	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Schisandra chinensis</i>	Fruit	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Sclerocarya caffra	Bark	35000	100000	-0.3594039354112402	--
Sclerocarya caffra	Leaf	200000	200000	1.0922402514317946	--
Scutellaria churchilliana	Plant	--	--		--
Scutellaria galericulata	Plant	28600	35000	-0.7100590442347579	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Scutellaria lateriflora	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Senecio aureus	Plant	--	--		--
Senna alata	Leaf	--	--		--
Senna occidentalis	Seed	--	--		--
Serenoa repens	Root	75800	75800	-0.020511406931147124	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Serenoa repens	Stem	54800	54800	-0.5063597006118161	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Simarouba amara	Bark	200000	270000	1.1277093514178864	--
Smilax china	Root	--	--		--
Solanum melongena	Fruit	2000	2000	-0.892385057681694	--
Solanum nigrum	Plant	70000	100000	0.23890746627510662	--
Solanum sessiliflorum	Fruit	142	1420	-0.8979806811449499	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Solanum tuberosum</i>	Leaf	32000	32000	-0.9586958606939968	--
<i>Spigelia marilandica</i>	Plant	--	--		--
<i>Stachys officinalis</i>	Plant	25200	150000	0.9688817051288484	--
<i>Sterculia urens</i>	Bark	--	--		--
<i>Sterculia urens</i>	Gum	20000	20000		--
<i>Stillingia sylvatica</i>	Plant	--	--		--
<i>Swertia chirata</i>	Plant	--	--		--
<i>Symphytum officinale</i>	Plant	80000	90000	0.09291261850435828	--
<i>Symplocarpus foetidus</i>	Plant	--	--		--
<i>Syzygium aromaticum</i>	Plant	--	--		--
<i>Syzygium cumini</i>	Fruit	--	--		Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Tabernanthe iboga</i>	Root	--	--		--
<i>Tamarindus indica</i>	Bl	--	70000		--
<i>Tamarindus indica</i>	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Tamarindus indica</i>	Bark	70000	70000	-0.6218356919104978	--
<i>Taraxacum officinale</i>	Root	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Terminalia arjuna	Bark	--	158000	0.14796412715399127	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Terminalia arjuna	Fruit	70000	120000	0.2460348882910567	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Terminalia bellirica	Bark	14000	70000	-0.6218356919104978	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Terminalia bellirica	Fruit	170000	214000	1.152911794404943	--
Terminalia catappa	Bark	130000	130000	-0.09697217891198255	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Terminalia catappa	Fruit	60000	200000	1.0178450211539385	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Terminalia chebula	Fruit	1090	355000	2.513227153575772	--
Teucrium chamaedrys	Plant	50000	50000	-0.4910667725786353	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Teucrium marum	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Teucrium montanum	Plant	22000	22000	-0.8998523463367307	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Teucrium polium</i>	Plant	--	--		Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
<i>Teucrium scorodonia</i>	Leaf	80000	90000	-0.250634583888664	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Thuja occidentalis</i>	Branches	59000	59000		--
<i>Thymus serpyllum</i>	Plant	50000	75000	-0.12607965315176423	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Thymus vulgaris</i>	Plant	80000	100000	0.23890746627510662	--
<i>Thymus vulgaris</i>	Leaf	16800	100000	-0.12855505340498594	--
Tilia sp.	Flower	--	--		--
<i>Tridax procumbens</i>	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Tsuga canadensis</i>	Bark	100000	150500	0.08235618802917684	--
<i>Tsuga canadensis</i>	Leaf	15000	15000	-1.1662310625162495	--
<i>Tsuga canadensis</i>	Root Bark	245000	245000	0.54974403267798	--
<i>Turnera diffusa</i>	Leaf	8400	40000	-0.8610322363070544	--
<i>Tussilago farfara</i>	Flower	6000	6000	-1.3938819360461085	--
<i>Tussilago farfara</i>	Leaf	170000	170000	0.7260016599807604	--
<i>Tussilago farfara</i>	Rhizome	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Ulmus rubra</i>	Bark	30000	65000	-0.6655743179937075	--
<i>Urtica dioica</i>	Leaf	59700	133000	0.27430739719115166	Jim Duke's personal files.
<i>Vaccinium myrtillus</i>	Fruit	50000	120000	0.2460348882910567	--
<i>Vaccinium myrtillus</i>	Leaf	60000	200000	1.0922402514317946	--
<i>Vaccinium vitis-idaea</i>	Leaf	60000	200000	1.0922402514317946	--
<i>Vanilla planifolia</i>	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Verbena officinalis</i>	Plant	--	--		--
<i>Veronica officinalis</i>	Plant	--	--		--
<i>Viburnum opulus</i>	Fruit	30000	30000	-0.6222515111796854	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Viburnum prunifolium</i>	Root Bark	20000	20000	-1.4032939781516864	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Vinca minor</i>	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Viola tricolor</i>	Plant	--	--		--
<i>Vitis vinifera</i>	Seed	--	--		--
<i>Warburgia ugandensis</i>	Bark	--	--		--
<i>Yucca baccata</i>	Root	--	--		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Zanthoxylum americanum	Plant	--	--		--
Zizyphus jujuba	Fruit	100000	100000	0.05308235507533624	--
Zizyphus jujuba	Leaf	46000	46000	-0.7877845180168476	--